Physics Seminar

Wubben Science 203
Thursday 12:30 – 1:20 pm

Instructor	Dr. Brian Hosterman
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Office	Wubben Science 228C
Office Hours	M 10:00 – 10:50 am
	MTWF 1:00 – 1:50 pm
	WF 3:00 – 3:50 pm

Prerequisite
Upper division standing.

Course Overview
A forum for topical physics. In this seminar, faculty and students of physics participate in both informal discussions and formal oral presentations of selected topics of scientific interest, including significant current advances and crucial historical developments. The course may be repeated for a maximum of four semester hours of credit.

Course Learning Objectives
Upon completion of this course, a student should be able to:

1. Deliver the chosen presentation topic in a clear and concise manner.
2. Communicate physical and mathematical concepts at a level consistent with that of an upper-level undergraduate science seminar.
3. Demonstrate appropriate student demeanor and professionalism while presenting the chosen presentation topic.

Program Learning Objectives
This course contributes to the fulfillment of the following program learning objects for the BS Physics degree.

1. Communicate effectively about topics in physics verbally and in writing.

Grade Distribution and Grading Scale
Your grade for this course is based on the following activities, weighted as shown.

Attendance	25%
Resume (first draft)	4%
Resume (final draft)	6%
Presentation (abstract)	4%
Presentation (first practice)	8%
Presentation (second practice)	8%
Presentation (final)	45%

All graded work will be assigned a numerical score. Your letter grade can be estimated by calculating a percentage score and referencing the table below.

≥ 89.50	A
79.50 – 89.49	B
69.50 – 79.49	C
59.50 – 69.49	D
≤ 59.49	F

Attendance Policy
Attending all physics seminars throughout the seminar is required. Your attendance grade will be worth a total of 25% of your grade and graded out of 5 points according to the following rubric.

Attendance	Points
0 missed classes	5
1 missed class	4
2 missed classes	3
3-4 missed classes	2
5-6 missed classes	1
6 or more missed classes	0

Resume
You will generate a resume which could be included in an application for a job posting. A representative from CMU Career Services will give a presentation for constructing a professional cover letter. Due dates for each draft are provided in the attached schedule. A student that presents on any of these due dates will be allowed to turn in the drafts one week later.

Presentation
You will present one seminar to a public audience on one of the days on which the course meets. The presentation must be between 30 and 45 minutes and will be followed by about 10 minutes of questions. You will also be required to do several preparatory steps associated with the presentation. The components of this assignment are:

1. **Abstract:** A one or two paragraph brief description of the topic that you plan to present must be delivered to me electronically. This is due at least three weeks prior to your scheduled presentation. The instructor will assess the abstract and may ask for modifications. Full credit for this task requires that appropriate modifications to the abstract are made prior to your first practice presentation.

2. **First practice presentation:** You must deliver a practice presentation to the instructor at least two weeks prior to your scheduled presentation. Your grade for this portion will be based on your level of preparedness in discussing your topic. Late first practice presentations will be penalized at a rate of 50% per day.

3. **Revised practice presentation:** You must deliver a revised presentation to the instructor at least one week prior to your scheduled presentation. You are required to schedule a 50-minute session with the instructor; during this time you will be tested on your understanding of the revised presentation. You may also be required to give a third practice presentation; this potential requirement is at the discretion of the instructor. For each day after the deadline that you are late your grade for this portion will be penalized by 50%. If the instructor deems

your revision unsatisfactory, you may be disallowed from presenting. This will result in an automatic failing grade for the course.

4. **Final presentation:** You must deliver a final presentation to a public audience during the time scheduled for you at the beginning of the semester. This will be graded out of 10 points by all physics faculty who attend the seminar using the following rubric.

   5 points *Scientific depth and correctness of presentation.* This includes, but not limited to: physics is accurate and precise on slides and in oral presentation, appropriate terminology and notation is utilized, demonstrates a deep understanding of the research topic with appropriate explanations, and material is well motivated.

   4 points *Ability to communicate physical and mathematical concepts.* This includes, but not limited to: order and style of presentation makes sense, physics is presented for appropriate audience (junior/senior physics majors), appropriate amount of material presented in time allotted, explanations are clear, talk is practiced, and general mechanics of presentation such as slides, volume, articulation, legibility, addressing audience, etc.

   1 point *Student demeanor and professionalism of presentation.* This includes, but not limited to: speaker is generally comfortable with the physics being presented, speaker is polite and professional, and responses to questions or clarifications are correct and adequate.

Course Expectations
This course will require a fair amount of independent study (i.e. text reading and homework problems). Expect to spend a minimum of two hours outside of the classroom for every hour in the classroom.

Course Correspondence
All communication in this course will be made via your CMU email account. Please include the title of the course and section number in the subject line (PHYS 494). Check your email regularly throughout the semester. I will respond to your emails within 48 hours.

Disclaimer
The professor reserves the right to change any aspect of this syllabus at any time as fairness and circumstances dicate. An updated syllabus can always be found via D2L.

Tentative Course Schedule

You will be required to sign up for one of the available dates to give your presentation. Because this class compliments Physics senior research, preference will be given to senior physics majors giving their second seminar presentation.

Date	Presenter	Notes
August 22	*No speaker*	Introduction to class
August 29		
September 5		
September 12		
September 19	Dr. Erica Kinsey (SCL Health, St. Mary's)	
September 26		
October 3		
October 10		
October 17		
October 24		
October 31		
November 7		
November 14		
November 21		
November 28	*No speaker*	Thanksgiving Break (no class)
December 5	*No speaker*	
December 12	*No speaker*	Finals week (no class)